AMENDMENTS TO THE CLAIMS

1. (Previously Presented) Circuitry for signal measurement comprising:

a signal input,

a microprocessor having a clock input, and

an oscillator,

said oscillator being operable to generate a pulse signal, the frequency of which is a function of amplitude of a first signal received at said signal input, and to supply said pulse signal to said clock input of said microprocessor,

and said microprocessor being operable to measure the frequency of said pulse signal by comparing the pulse signal with a timing signal, thereby providing an indication of the amplitude of said first signal.

2. (Original) Circuitry according to claim 1 wherein said timing signal is in the form of a timing window.

3. (Original) Circuitry according to claim 1, wherein said pulse signal comprises pulses which are countable by a counter, said counter being connected to said microprocessor to give an indication to said microprocessor that a given number of pulses has been counted.

4. (Previously Presented) Circuitry according to claim 1, wherein said pulse signal is connected directly to said microprocessor.

5. (Previously Presented) Circuitry according to claim 2, wherein said pulse signal is connected directly to said microprocessor.

6. (Previously Presented) Circuitry according to claim 1 and also comprising:

a timer,

wherein an output of said timer comprises said timing signal.

7. (Previously Presented) Circuitry according to claim 2, wherein said microprocessor is operative to count said pulse signal over said timing window.

8. (Previously Presented) Circuitry according to claim 1, wherein said clock input is an external clock input.

9. (Previously Presented) Circuitry according to claim 1, wherein said oscillator is wholly external to said microprocessor.

10. (Previously Presented) Circuitry according to claim 1, wherein said oscillator utilizes internal features of said microprocessor.

11. (Previously Presented) Circuitry according to claim 1, wherein said signal input comprises an analog signal.

12. (Previously Presented) Circuitry according to claim 1, wherein said signal input comprises a digital signal.

13. (Currently Amended) Circuitry for signal measurement comprising:

a signal input,

a microprocessor having a clock input, and

a clock oscillator circuit connected to said clock input and operable to generate a clock signal for ~~input to said clock input of~~ said microprocessor, wherein the frequency ~~of pulses~~ of said microprocessor clock signal ~~is variable~~ varies as a function of the amplitude of a signal received at said signal input, and

said microprocessor is operable to process the clock signal and to provide an ~~output~~ indication of the amplitude of said signal received at said signal input.

14. (Original) Circuitry according to claim 13, further comprising a timer operable to define a pulse counting time duration for counting a plurality of said clock pulses, and wherein said timer is further usable by said microprocessor in processing said signal.

15. (Original) Circuitry according to claim 14, wherein said microprocessor is operable to count a plurality of pulses over said time duration.

16. (Previously Presented) Circuitry according to claim 6, wherein said timer comprises a capacitor-based circuit.

17. (Previously Presented) Circuitry according to claim 14, wherein said timer comprises a capacitor-based circuit.

18. (Previously Presented) Circuitry according to claim 6, wherein said timer is connectable to utilize an I/O port of said microprocessor.

19. (Previously Presented) Circuitry according to claim 14, wherein said timer is connectable to utilize an I/O port of said microprocessor.

20. (Previously Presented) Circuitry according to claim 13, wherein said clock oscillator circuit utilizes a microprocessor built-in clock circuit.

21. (Previously Presented) Circuitry according to claim 13, wherein said oscillator is wholly external to said microprocessor.

22. (Previously Presented) Circuitry according to claim 13, wherein said signal received at said signal input is an analog signal.

23. (Previously Presented) Circuitry according to claim 13, wherein said signal received at said signal input is a digital signal.

24. (Previously Presented) Circuitry according to claim 13, wherein said signal received at said signal input is produced by a sensor.

25. (Previously Presented) Circuitry according to claim 24, wherein said sensor is part of a security system.

26. (Previously Presented) Circuitry according to claim 24, wherein said sensor is an infra-red sensor.

27. (Previously Presented) Circuitry according to claim 24, wherein said sensor is a pyroelectric sensor.

28. (Previously Presented) Circuitry according to claim 24, wherein said sensor is connected to said clock oscillator circuit via an interface circuit.

29. (Previously Presented) Circuitry according to claim 28 wherein said interface circuit is operable to perform buffering.

30. (Previously Presented) Circuitry according to claim 29 wherein said interface circuit is operable to perform amplification.

31. (Previously Presented) Circuitry according to claim 1, operable to measure signals from sensors by converting amplitudes of said signals into a frequency and making a measurement of the frequency.

32. (Previously Presented) Circuitry according to claim 13, operable to measure signals from sensors by converting amplitudes of said signals into a frequency and making a measurement of the frequency.

33. (Currently Amended) Circuitry for signal measurement comprising:

a microprocessor operative to receive a signal having a varying amplitude from a sensor, said signal being provided as an input to a clock circuit connected to a clock input of said microprocessor, the ~~microprocessor~~ clock circuit comprising a converter for converting said varying amplitude into a varying frequency, and

a measuring device operable to determine parameters of the sensor signal by measurement of variations in the frequency.

34. (Currently Amended) A detection apparatus comprising:

a sensor providing sensor signal output, a microprocessor having a clock input, and a clock oscillator circuit connected to said clock input and generating a clock signal for ~~input to said clock input of~~ said microprocessor, wherein the frequency of said microprocessor clock signal varies as a function of the amplitude of said sensor signal, and said microprocessor processes the clock signal and provides a detection indication when said sensor signal fulfils certain criteria.

35. (Previously Presented) A detection apparatus according to claim 34 further comprising a timer operable to define a pulse counting interval for counting a plurality of said clock pulses, and wherein said timer is usable by said microprocessor in processing the signal.

36. (Previously Presented) A detection apparatus according to claim 35 wherein said microprocessor is operable to count said plurality of pulses over said time duration.

37. (Previously Presented) A detection apparatus according to claim 35, wherein said timer comprises a capacitor-based circuit.

38. (Previously Presented) A detection apparatus according to claim 35, wherein said timer utilizes an I/O port of said microprocessor.

39. (Previously Presented) A detection apparatus according to claim 34, wherein said clock oscillator is external to said microprocessor.

40. (Previously Presented) A detection apparatus according to claim 34, wherein said clock oscillator utilizes the microprocessor built-in clock circuit.

41. (Previously Presented) A detection apparatus according to claim 34, wherein said sensor signal is an analog signal.

42. (Previously Presented) A detection apparatus according to claim 34, wherein said sensor signal is a digital signal.

43. (Previously Presented) A detection apparatus according to claim 34, when used for intrusion prevention.

44. (Previously Presented) A detection apparatus according to claim 34, when used for theft prevention.

45. (Previously Presented) A detection apparatus according to claim 34, when used for lighting control.

46. (Previously Presented) A detection apparatus according to claim 34, when used for vibration sensing.

47. (Previously Presented) A detection apparatus according to claim 34, when used for shock sensing.

48. (Previously Presented) A detection apparatus according to claim 34, when used for displacement sensing.

49. (Previously Presented) A detection apparatus according to claim 34, wherein said sensor is any one of a group comprising an infra-red sensor, a quad-element infrared sensor, an acoustic sensor, an infrasonic sensor, an ultrasonic sensor, a photoelectric sensor, an electromagnetic field sensor, a temperature sensor, and a smoke-detecting sensor.

50. (Previously Presented) A detection apparatus according to claim 49, comprising a second sensor, and wherein said second sensor is any one of a group comprising an infra-red sensor, a quad-element infrared sensor, an acoustic sensor, an infrasonic sensor, an ultrasonic sensor, a photoelectric sensor, an electromagnetic field sensor, a temperature sensor, and a smoke-detecting sensor.

51. (Currently Amended) A method for signal measurement comprising:

providing a first signal to an oscillator circuit operable to generate a clock signal for ~~input to a clock input of~~ a microprocessor, wherein the frequency of said clock signal ~~is variable~~ varies as a function of the amplitude of said first signal, and said microprocessor is operable to process the clock signal and to determine parameters ~~provide an output indication of the amplitude~~ of said first signal by measuring variations in the frequency of said clock signal.